

Remarks

In the outstanding Official Action, the Examiner:

(1) acknowledged Applicants' election without traverse of Species A and indicated that claims 47-54, 68 and 82 are withdrawn from consideration;

(2) objected to claims 41, 46, 64 and 65 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim;

(3) rejected claims 36, 42, 55, 61, 66, 67 and 84 under 35 USC 102(b) as being anticipated by Poole (U.S. Patent No. 6,027,989) ("Poole");

(4) rejected claims 37, 38, 43, 44, 45, 56, 57, 58, 60, 62 and 63 under 35 USC 103(a) as being unpatentable over Poole; and

(5) rejected claims 39, 40 and 59 under 35 USC 103(a) as being unpatentable over Poole.

Turning first to Item 1 above, Applicants believe that no response is necessary.

In response to Item 2 above, Applicants have canceled claims 41, 46 and 64 without prejudice. Applicants expressly reserve the right to prosecute all canceled subject matter in related applications. Applicants have also amended claims 65-67 in order to further define the subject matter of the earlier claim. Applicants believe that these amendments are sufficient to overcome the Examiner's rejection under 37 CFR 1.75(c).

In response to Items 3 through 5 above, Applicants respectfully disagree with the Examiner's rejections, however, Applicants have amended claims 36 and 84 in order to more clearly define the present invention.

More particularly, Applicants have amended claims 36 and 84 to more clearly recite that the step of rapid thermal annealing

is performed while the cap is deposited on the top surface of the single semiconductor material so as to tune the plurality of quantum wells disposed in the semiconductor wafer beneath the cap from the given bandgap to a first tuned bandgap.

In contrast, Applicants believe that the step of annealing, as disclosed in the method recited in Poole, is performed after the SiO<sub>2</sub> mask has been removed and not while the SiO<sub>2</sub> mask is deposited on the wafer. This is a significant difference between the method of the present invention and the method of Poole. Thus, Applicants believe that claims 36 and 84 are neither anticipated nor rendered obvious by the invention disclosed in Poole. Accordingly, allowance thereof is respectfully requested.

Furthermore, claims 37-40, 42-45, 55-63 and 65-67 which depend from claim 36, either directly or indirectly, are believed to be allowable at least through dependency.

In the event that any fees may be required in this matter, please charge the same to Deposit Account No. 16-0221.

Thank you.

Respectfully submitted,



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